

Amendments To The Drawings

Three new drawings sheets are attached, and include new Figures 4-6. The three original drawings sheets bearing original Figures 1-3 are retained in the application without change. Thus, the three enclosed new drawing sheets bearing Figures 4-6 supplement rather than replace the original drawings sheets.

New Figure 4 is equivalent to original Figure 3, except that a pump 54 in Figure 3 has been omitted in Figure 4, and a valve or variable constriction 101 has been added in the first pipe 56, as discussed in paragraph [0048] of the specification. New Figure 5 is equivalent to original Figure 3, except that a pump 54 in Figure 3 has been omitted in Figure 5, and a valve or variable constriction 102 has been added in the second pipe 60, as discussed in paragraph [0048] of the specification. New Figure 6 is equivalent to original Figure 3, except that a pump 54 in Figure 3 has been omitted in Figure 6, a valve or variable constriction 101 has been added in the first pipe 56, and a valve or variable constriction 102 has been added in the second pipe 60, as discussed in paragraph [0048] of the specification.

Attachment: Three (3) new drawing sheets bearing new Figures 4-6

REMARKS

Claims 1-7, 9-19, 26-32 and 54-59 are present in the application. In view of the remarks that follow, favorable consideration is respectfully requested.

Objection to Premature Finality

The present Office Action is designated as a "final" rejection. However, the finality of the Office Action is respectfully traversed. MPEP 706.07(a) specifies that an Office Action shall not be final "where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims, nor based on information submitted in an information disclosure statement". In this regard, the present Office Action includes several problems, one selected example of which is discussed below.

The most recent prior Office Action (mailed June 4, 2009) presented some claim rejections for indefiniteness under the second paragraph of 35 U.S.C. 112. The present Office Action also presents claim rejections for indefiniteness under the second paragraph of 35 U.S.C. 112, including grounds of rejection that were not raised in the prior Office Action. As one example, in lines 10-14 on page 3, the present Office Action refers to the recitation in Claim 1 of "pump means for", and raises the question of whether the phrase "pump means" is modified by sufficient structure for achieving the specified function. However, the phrase "pump means for" has been present in Claim 1 since the present application was filed on September 30, 2005. Although independent Claim 1 was amended in Applicants' most recent prior Response, this new ground of rejection under §112 is not directed to any of the amended language in Claim 1, but instead is directed to original claim language that has been in Claim 1 since the present application was filed. If the Examiner believes that the phrase "pump means for" presents a question of indefiniteness under the second paragraph of 112, then the Examiner could have and should have raised this issue in the prior Office Action mailed on June 30, 2009. The Examiner is not permitted to belatedly raise this new ground of rejection while simultaneously designating the present Office Action as a "final" rejection.

It is respectfully submitted that this is very clearly a situation "where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims, nor based on information submitted in an information disclosure statement". Consequently, as explained in MPEP §706.07(a), the present Office Action cannot properly be designated as a "final" rejection under these circumstances. It is therefore respectfully submitted that the finality of the present Office Action is not proper and must be withdrawn. Applicants respectfully request notice that the finality of the present Office Action has been withdrawn

Objection to Incomplete Office Action

In Section 3 on pages 2-3, the Examiner notes that the "analyzer" recited in Claim 1 is not considered to be part of the claimed combinations. Applicants agree. However, the Examiner then goes on to assert that certain other claim limitations were not given any weight in evaluating patentability. These limitations are identified by the Examiner as "controlling by analyzed data portion of claim 1; claim 9; and calculation/dilution factor in claims 3-5, 54 and 59". However, even though Claim 1 does not positively recite an analyzer, that does not mean other positive limitations in Claim 1 can be arbitrarily ignored. The limitations identified by the Examiner are not defining the analyzer itself, but are defining other structural elements. To the extent the Examiner failed to properly consider and give patentable weight to certain characteristics that were in fact positively recited in Claim 1, the Examiner has failed to properly and fully consider Applicants' claimed invention. Consequently, the present Office Action is not complete. Applicants respectfully submit that the present Office Action must therefore be withdrawn and replaced with a new and non-final office action that properly considers the entire combination that is positively recited in Claim 1, and not just a portion of that combination.

A separate problem exists under the provisions of MPEP §707.07(f), which instruct examiners that:

Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.

In the most recent prior Office Action (mailed on June 4, 2009), the Examiner rejected independent Claims 1 and 57 as anticipated under 35 U.S.C. §102 by Figure 2 and paragraphs 10-19 of the present application. In Applicants' most recent prior Response (filed October 21, 2009), the remarks on pages 14-16 present arguments against this ground of rejection. On page 5 of the present Office Action, the Examiner repeats the same prior rejection, asserting Claims 1 and 57 are anticipated under §102 by Figure 2 and paragraphs 10-19 of the present application. But the Examiner fails to meet the PTO's requirement that the Examiner must "take note of the applicant's argument and answer the substance of it". Instead, at the top of page 8 of the present Office Action, the Examiner asserts that "Applicant's arguments with respect to claims 1-7, 9, 10, 54, 57 and 59 have been considered but are moot in view of the new grounds of rejection". However, the §102 rejection of Claims 1 and 57 based on specified portions of the present application is not a new ground of rejection, but is a repeat of a prior ground of rejection as to which the Applicants presented arguments. To the extent the present Office Action fails to "take note of the applicant's argument and answer the substance of it", the Office Action fails to comply with MPEP §707.07(f). Accordingly, it is respectfully submitted that the present Office Action is not complete. It is therefore respectfully submitted that the present Office Action must be withdrawn, and replaced with a new and complete Office Action that complies with MPEP 707.07(f), and that in particular takes note of each of Applicants' prior arguments, and answers the substance of each of those arguments.

Drawing Amendment

The Office Action objected to the drawings under 37 C.F.R. §1.83, indicating that the pending claims recite a single pump configuration with valves disposed in conduits, but that the

drawings do not show this configuration. Accordingly, the drawings have been amended to add three new drawing sheets that contain new Figures 4-6. The three original drawings sheets bearing Figures 1-3 remain in the application unchanged. New Figures 4-6 are each based directly on original Figure 3, but depict respective variations of Figure 3 that are described in paragraph [0048] of the originally-filed specification. In more detail, new Figure 4 is equivalent to original Figure 3, except that a pump 54 in Figure 3 has been omitted in Figure 4, and a valve or variable constriction 101 has been added in the first pipe 56, as described in paragraph [0048] of the originally-filed specification. New Figure 5 is equivalent to original Figure 3, except that a pump 54 in Figure 3 has been omitted in Figure 5, and a valve or variable constriction 102 has been added in the second pipe 60, as described in paragraph [0048] of the specification. New Figure 6 is equivalent to original Figure 3, except that a pump 54 in Figure 3 has been omitted in Figure 6, a valve or variable constriction 101 has been added in the first pipe 56, and a valve or variable constriction 102 has been added in the second pipe 60, as described in paragraph [0048] of the specification. For these reasons, Applicants respectfully submit that new Figures 4-6 do not add any new matter to the disclosure of the present invention. Applicants therefore respectfully request that the Examiner approve new Figures 4-6, and then add the three enclosed new drawing sheets to the present application.

Compliance with Second Paragraph of 35 U.S.C. §112

In Section 5 on pages 3-5 of the Office Action, the Examiner rejects Claims 1-7, 9-10, 54, 57 and 59 under the second paragraph of 35 U.S.C. §112 as indefinite. The Examiner raises a number of different grounds of rejection under the second paragraph of §112. These grounds of rejection are all respectfully traversed, and are discussed separately below.

In lines 10-14 on page 3, the Examiner cites MPEP §2181 in support of the proposition that, for a means-plus-function limitation to fall within the sixth paragraph of §112, the "phrase 'means for' must not be modified by sufficient structure, material, or acts for achieving the specified function". As to the recitation in Claim 1 of "pump means for", the Examiner states

that the "recitation 'pump means for...' in claim 1 appears to invoke 112(6) interpretation". The Examiner then concludes by stating that "Appropriate clarification is required". But appropriate clarification of what? The Office Action does not say. The rejection is for indefiniteness under the second paragraph of §112, whereas the issue of whether or not a means-plus-function limitation falls within the sixth paragraph of §112 does not involve an issue of definiteness under the second paragraph. The Examiner discusses only the sixth paragraph of §112, and fails to identify any specific issue of indefiniteness under the second paragraph of §112. Moreover, as to the sixth paragraph of §112, the Examiner states that the recitation of "pump means for..." falls within the sixth paragraph. Thus, the Office Action does not identify any problem under the sixth paragraph that would require clarification. So it makes no sense for the Office Action to conclude by asserting that "Appropriate clarification is required". Applicants have carefully reviewed the recitation of "pump means" in Claim 1, and do not see any problem of indefiniteness. Notice to that effect is respectfully requested.

In lines 15-16 on page 3, the Examiner asserts that Claim 1 is indefinite because it is not clear whether Applicants intend to positively recite an analyzer. However, the attention of the Examiner is respectfully directed to page 10 of Applicants' last Response, where Applicants explicitly stated that Claim 1 does not positively recite an analyzer. Moreover, in the present Office Action, the Examiner states at the bottom of page 2 that Claim 1 does not positively recite an analyzer. It is inconsistent for the Examiner to assert on page 2 that Claim 1 clearly does not recite an analyzer, while simultaneously asserting on page 3 that it is not clear whether Claim 1 positively recites an analyzer. As a practical matter, Claim 1 clearly does not positively recite an analyzer, and there is no reasonable basis for the assertion that Claim 1 is indefinite as to whether or not it recites an analyzer. On this point, it is respectfully submitted that Claim 1 is entirely definite under §112.

In lines 17-21 on page 3, the Examiner notes that Claim 1 recites a pump controller is "arranged to receive analyzer data indicative of . . . dependence upon the received data", and asserts that this is indefinite because it is merely the recitation of the purpose of a process.

Applicants respectfully disagree. Contrary to the assertions in the Office Action, this quoted claim language is not a recitation of the purpose of a process, but instead defines the operation and thus the structure of the recited pump controller. In this regard, the attention of the Examiner is respectfully directed to the remarks of Applicants' last Response, and in particular to the section of the remarks running from line 23 on page 11 through line 15 on page 9, where Applicants discussed the court decision of *In re Swinehart*. The *Swinehart* decision prohibits examiners from ignoring functional language that is used to define structure. With due regard to the *Swinehart* decision, it is respectfully submitted that there is nothing indefinite about the language used in Claim 1 to define the pump controller, and that this language is in compliance with the second paragraph of §112.

In lines 22-25 on page 3, the Examiner focuses on the "mixer" recited in each of Claims 1 and 57. The Examiner asserts that "in view of the specification [the mixer] is merely an intersection of three conduits". It is respectfully submitted that this assertion is not proper. The Examiner is attempting to read limitations from the specification into the claims. That unnecessarily narrows the claims, and is not permitted. The Examiner goes on to ask "Does it take a specific design to . . . achieve a third flow rate . . . substantially equal to the sum of a first and second flow rates?" However, this question makes little sense, and does not appear to have anything to do with whether or not the recitation of the "mixer" is indefinite under §112. If the Examiner is confused about how some of the disclosed embodiments operate, the Examiner is invited to telephone the undersigned to discuss their operation. But the fact that that Examiner may not understand something disclosed in the specification is irrelevant to the issue raised in the Office Action as to whether certain language in Claims 1 and 57 is indefinite. It is respectfully submitted that the Office Action fails to clearly identify any specific problem of indefiniteness in the recitation of the "mixer" in Claims 1 and 57. Moreover, Applicants have carefully reviewed the recitation of the "mixer" in each of Claims 1 and 57, and do not see any problem of indefiniteness. It is respectfully submitted that there is nothing indefinite under §112

about the recitation of the "mixer" in Claims 1 and 57, and notice to that effect is respectfully requested.

In lines 25-28 on page 3, the Examiner focuses on the "pump means" recited in Claim 1. The Examiner asserts that "in view of the specification [the pump means] is a pump disposed between the analyzer and the mixer". However, it is respectfully submitted that this assertion is not proper. The Examiner is attempting to read limitations from the specification into the claims. That unnecessarily narrows the claims, and is not permitted. The Examiner then goes on to assert that "It is unclear how the pump being provided between the mixer and the third conduit/analyzer comprises valves supposedly provided on the first or second conduit". However, a problem with this assertion is that the Examiner uses the term "pump means" and the term "pump" interchangeably, whereas in Claim 1 these two terms are distinctly different. In particular, Claim 1 specifies that the recited "pump means" includes both (1) a "pump" and (2) a "valve" or a "variable constriction". By way of example and not limitation, one possible way of reading Claim 1 onto new Figure 4 is that the recited "pump" is element 64, the recited "valve" or "variable constriction" is element 101, and the recited "pump means" includes both of the elements 64 and 101. The Office Action fails to clearly identify any specific problem of indefiniteness in regard to the recitation of a "pump means" and a "pump" in Claim 1. Applicants have carefully reviewed the recitation of the "pump means" and the "pump" in Claim 1, and do not see any problem of indefiniteness. Accordingly, it is respectfully submitted that there is nothing indefinite under §112 about the recitation of the "pump means" and the "pump" in Claim 1.

In regard to Claim 1, lines 1-2 on page 4 of the Office Action ask "how does the controller receive data critical to the adjustment of flow rate to achieve desired dilution without claiming the analyzer?" Claim 1 recites a pump controller that receives data, and then uses that data in carrying out a specified control function. The Examiner apparently assumes that Claim 1 must recite an entire system, including all elements required for the system to operate. However, that is not a requirement under §112. Applicants have carefully reviewed the recitation of the

"pump controller" in Claim 1, and do not see any problem of indefiniteness. Accordingly, it is respectfully submitted that there is nothing indefinite under §112 about the recitation in Claim 1 of the receipt of data by the "pump controller".

In lines 2-10 on page 4, the Examiner presents a quotation that begins with the phrase "said mixer being coupled to the first conduit with a valve and the second conduit with a valve". However, this quoted phrase does not appear anywhere in Applicants' claims or in Applicants' specification. For example, the phrase "with a valve" appears twice in the Examiner's quotation, but the phrase "with a valve" does not appear anywhere in Applicants' claims or in Applicants' specification. Consequently, it does not matter whether the language quoted by the Examiner is indefinite, because this language does not appear in Applicants' claims. The Examiner then goes on to ask "How is an intersection of said conduits capable of achieving such specific functions?" However, Applicants' claims do not recite an "intersection" of conduits. Again, indefiniteness under §112 is not an issue, because the Examiner is talking about language that does not actually appear in Applicants' claims.

In lines 10-11 on page 4, the Examiner asks "How are the dilution factors (e.g. Claims 4, 5, 54 and 59) calculated?" Applicants' specification explains how to calculate a dilution factor, and Claims 4-5, 54 and 59 are not required to recite how a dilution factor is calculated. The Office Action does not raise a rejection under the first paragraph of §112 on the ground that these claims recite subject matter not supported by the specification. The Office Action makes a conclusory assertion that these claims are indefinite under the second paragraph of §112, but the Examiner fails to carry the burden of explaining why the limitations in any of Claims 4-5, 54 and 59 might be considered to be indefinite. Applicants have carefully reviewed dependent Claims 4-5, 54 and 59, and do not see any problem of indefiniteness in these claims.

In lines 12-16 on page 4, the Examiner states "It is requested that applicant provide in the argument section of the reply [an explanation of] how this configuration (claims 1 and 57) having a pump on one of three conduits and a flow regulator on one of three conduits regulates flow rates in each of three conduits". First, it is noted that neither Claim 1 nor Claim 57 includes

the specific language identified by the Examiner. For example, (1) neither claim recites "a flow regulator", (2) neither claim recites a pump "on one of three conduits", and (3) neither claim recites a flow regulator "on one of three conduits". Moreover, in this portion of the Office Action, the Examiner fails to carry the burden of identifying any indefiniteness in either of Claims 1 and 57. In essence, the Examiner asks for an explanation of how some embodiments discussed in paragraphs [0048] to [0052] of the specification operate, but that has nothing to do with the ground of rejection presented, which involves only the issue of whether the language of the claims is definite. If the Examiner is confused about how some of the disclosed embodiments operate, the Examiner is invited to telephone the undersigned to discuss their operation. But the fact that that Examiner may not understand something disclosed in the specification is irrelevant to the issue raised in the Office Action as to whether the language of the claims is indefinite.

In lines 17-20 on page 4, the Examiner asks "what is the analyzer analyzing to provide data to the controller?" However, this is not relevant to the interpretation of Claim 1, which does not recite an analyzer. Claim 1 recites a mass spectrometer pumping device. In use, this claimed device might be operatively coupled to an analyzer, but Claim 1 does not require the presence of an analyzer. And the operation of an analyzer (that is not recited in Claim 1) has nothing to do with the rejection presented in the Office Action, which is whether Claim 1 uses definite language to define the mass spectrometer pumping device that is being claimed. Because the Examiner's question relates to an analyzer that is not part of the structure recited in Claim 1, the Examiner has failed to carry the burden of identifying any word or phrase in Claim 1 that might be considered to be indefinite.

In lines 21-28 on page 4, the Examiner asserts that the term "arranged to" is indefinite, and goes on to assert that "Proper and conventional phrases to incorporate an active process limitation with patentable weight into an apparatus claim are for e.g., 'a controller configured to/for...' and 'a controller programmed to/for' ". However, these assertions by the Examiner are respectfully traversed. The Examiner cites no authority in support of these assertions. In fact,

there is no such authority. The attention of the Examiner is again respectfully directed to the remarks of Applicants' last Response, and in particular to the section of the remarks running from line 23 on page 11 through line 15 on page 9, where Applicants discussed the court decision of *In re Swinehart*. The *Swinehart* decision prohibits examiners from ignoring functional language that is being used to define structure. The Examiner's assertion that "arranged to" is indefinite is directly inconsistent with the *Swinehart* decision, and with portions of the MPEP that discuss *Swinehart*, including MPEP §2173.01, MPEP §2173.05(g) and MPEP §2114. For example, as pointed out in the remarks of Applicants' last Response, MPEP §2173.01 explains that:

Applicant may use functional language . . . or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought. As noted by the Court in *In Re Swinehart*, 439 F2d. 210, 169 USPQ 226 (CCPA 1971), a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought.

In rejecting claims because of the phrase "arranged to", the Examiner is violating the PTO policy stated in MPEP §2173.01 that "a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought". The Examiner asserts in the Office Action that it is not clear whether "arranged to" means (1) a specific positional arrangement of the controller with respect to other components of the device, or (2) a specific computer program within the controller. Part of the problem is that the Examiner assumes "arranged to" can only be one or the other. In reality, "arranged to" is broad enough to encompass various embodiments that involve one, the other, or both. Consequently, and with due regard to the *Swinehart* decision, MPEP §2173.01, MPEP §2173.05(g) and MPEP §2114, it

is respectfully submitted that there is nothing indefinite about the term "arranged to" in Applicants' claims.

In the paragraph running from line 29 on page 4 through line 6 on page 5, the Examiner asserts that it is not clear how certain recited limitations in Claim 57 are achieved, including (1) "for mixing a sample with a diluent", (2) "for supplying a sample to the mixer at a first flow rate", (3) "for supplying a diluent to the mixer at a second flow rate", (4) "for receiving a diluted sample from the mixer", and (5) "for pumping the diluted sample from the mixer through the third conduit at a third flow rate substantially equal to the sum of the first and second flow rates". The Examiner asserts that "the claim appears to be incomplete for omitting essential **structural** cooperative relationships of elements, such omission amounting to a gap between the necessary **structural** connections and the **functional** recitations recited for each element" (emphasis added). This ground of rejection is respectfully traversed. In essence, the Examiner is again improperly treating **functional** claim language as inferior to **structural** claim language in an apparatus claim. The attention of the Examiner is yet again respectfully directed to the section of the remarks in Applicants' last Response that run from line 23 on page 11 through line 15 on page 9, where Applicants discussed the court decision of *In re Swinehart* and related MPEP sections, including MPEP §2173.01, MPEP §2173.05(g) and MPEP §2114. For example, the attention of the Examiner is again directed to the portion of MPEP §2173.01 that is quoted above. With due regard to the *Swinehart* decision, MPEP §2173.01, MPEP §2173.05(g) and MPEP §2114, it is respectfully submitted that there is nothing indefinite about any of the five functional limitations identified by the Examiner in Claim 57.

Independent Claim 57 - Inconsistent Rejections

In Section 7 on page 5, the Examiner rejects independent Claim 57 under 35 U.S.C. §102 as **anticipated** by Figure 2 and paragraphs 10-19 of the present application. But in Section 12 on pages 6-7, the Examiner rejects Claim 57 under 35 U.S.C. §103 as **obvious** in view of Figure 2 and paragraphs 10-19 of the present application. However, these two different grounds of

rejection are improper because they are directly inconsistent with each other. More specifically, in order to meet the requirements for an anticipation rejection under §102 (as discussed in MPEP §2131), the Examiner must establish that Figure 2 and paragraphs 10-19 of the present application disclose all of the limitations in Claim 57. In contrast, in order to meet the requirements for an obviousness rejection under §103 (as discussed in MPEP §2142 and §706.02(j)), the Examiner must explicitly identify a limitation in Claim 57 that is not disclosed in Figure 2 or in paragraphs 10-19 of the present application. In the present §103 rejection, at lines 1-2 on page 7 of the Office Action, the Examiner explicitly states that Figure 2 and paragraphs 10-19 of the present application do not teach everything recited in Claim 57. Consequently, the §102 rejection is defeated by the Examiner's assertion in the §103 rejection that the indicated portions of the present application do not disclose everything recited in Claim 57. Similarly, the §103 rejection is defeated by the Examiner's assertion in the §102 rejection that the indicated portions of the present application disclose everything recited in Claim 57. The Examiner cannot have it both ways, and in particular cannot properly maintain both a §102 rejection and a §103 rejection of the same claim based on exactly the same prior art.

Patentability of Independent Claims 1 and 57 - §102, Figure 2 and Paragraphs 10-19

Independent Claims 1 and 57 each stand rejected under 35 U.S.C. §102 as anticipated by Figure 2 and paragraphs 10-19 of the present application, which for the purpose of this rejection the Examiner refers to as Applicants' Admitted Prior Art (AAPA). These grounds of rejection are respectfully traversed, for the following reasons. Quoting relevant case law, the PTO explains in MPEP §2131 that, under 35 U.S.C. §102:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.

1987). . . . "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

In other words, to anticipate a claim under §102, a reference (1) must disclose each and every element recited in the claim, and (2) must also disclose these elements arranged in the manner recited in the claim. Independent Claim 1 recites:

. . . a mixer . . . coupled to the first conduit and the second conduit such that the sample enters the mixer through the first conduit at a first flow rate and the diluent enters the mixer through the second conduit at a second flow rate, the mixer being coupled to the third conduit and arranged so that said diluted sample exits the mixer into the third conduit at a third flow rate . . . ; . . . a pump coupled to the third conduit; and a valve, or variable constriction, disposed in one of the first and second conduits and arranged to control the first or second flow rate respectively . . .

Independent Claim 57 recites:

. . . a mixer . . . ; a first conduit for supplying a sample to the mixer at a first flow rate; a second conduit for supplying a diluent to the mixer at a second flow rate; a third conduit for receiving a diluted sample from the mixer; and a pump for pumping the diluted sample from the mixer through the third conduit at a third flow

rate . . . , wherein one of the first and second conduits comprises a valve, or variable constriction, disposed therein for controlling the first or second flow rate, respectively.

As discussed above, the Examiner explicitly admits in lines 1-2 on page 7 that Figure 2 and paragraphs 10-19 of the present application do not disclose everything recited in Claim 1 and Claim 57. That admission, in and of itself, defeats the §102 rejection of Claims 1 and 57.

A further problem with this §102 rejection is that it relies on portions of the present application that discuss several different embodiments. However, as explained in MPEP §2131, a proper §102 rejection must be based on one and only one prior art embodiment, and cannot be a combination of features extracted from multiple different embodiments. As best understood, the Examiner apparently intended to rely only on the embodiment shown in Figure 2 of the present application, and the discussion that follows is therefore directed to the embodiment of Figure 2.

A further and separate consideration is that Claims 1 and 57 each call for a pump associated with the third conduit (for the diluted sample), and also call for a valve or variable constriction in one of the first and second conduits (respectively for the sample and diluent), in order to respectively control the first or second flow rate. Turning to the AAPA, Figure 2 of the present application shows a valve 32 in an inlet conduit 30 to a mixer 34. However, a pump 31 is also in this same conduit. The pump 31 is a syringe pump, and the pump 31 and valve 32 work in tandem to control fluid flow through the conduit 30. For example, paragraph 12 of the present application explains that, with syringe pumps, fluid needs to be drawn up before it is pumped out, and so a valve is needed to ensure the correct flow of fluid through the system. Claims 1 and 57 are each different from Figure 2 of the AAPA, because they each recite a pump for a conduit out of a mixer, whereas Figure 2 shows a pump for a conduit into a mixer.

As discussed earlier in these remarks, this particular §102 rejection is repeated from a prior Office Action, and Applicants discussed the foregoing distinction in the remarks of their

last Response. However, the Examiner completely ignored Applicants' arguments, and incorrectly asserts on page 8 of the present Office Action that "Applicant's arguments . . . have been considered but are moot in view of the new grounds of rejection". To the extent the present Office Action fails to "take note of the applicant's argument and answer the substance of it", the Office Action fails to comply with MPEP §707.07(f) and is therefore not complete (as discussed in detail earlier).

As discussed above, in order to anticipate a claim under §102, a reference (1) must disclose each and every element recited in the claim, and (2) must also disclose these elements arranged in the manner recited in the claim. The system shown in Figure 2 of the AAPA does not meet this requirement (and in fact the Examiner explicitly admits this at the top of page 7 of the present Office Action). Accordingly, it is respectfully submitted that the AAPA does not anticipate either of Claims 1 and 57, and notice to that effect is respectfully requested.

Patentability of Independent Claim 1 - §102, Figure 1 and Paragraphs 10-19

Independent Claims 1 and 57 each stand rejected under 35 U.S.C. §102 as anticipated by Figure 1 and paragraphs 10-19 of the present application, which for the purpose of this rejection the Examiner refers to as Applicants' Admitted Prior Art (AAPA). These grounds of rejection are respectfully traversed, for the following reasons. As discussed above, in order to anticipate a claim under §102, a reference (1) must disclose each and every element recited in the claim, and (2) must also disclose these elements arranged in the manner recited in the claim. Independent Claim 1 recites:

. . . a mixer . . . coupled to the first conduit and the second conduit such that the sample enters the mixer through the first conduit at a first flow rate and the diluent enters the mixer through the second conduit at a second flow rate, the mixer being coupled to the third conduit and arranged so that said diluted sample exits the mixer

into the third conduit at a third flow rate . . . ; . . . a pump coupled to the third conduit; and a valve, or variable constriction, disposed in one of the first and second conduits and arranged to control the first or second flow rate respectively . . .

Independent Claim 57 recites:

. . . a mixer . . . ; a first conduit for supplying a sample to the mixer at a first flow rate; a second conduit for supplying a diluent to the mixer at a second flow rate; a third conduit for receiving a diluted sample from the mixer; and a pump for pumping the diluted sample from the mixer through the third conduit at a third flow rate . . . , wherein one of the first and second conduits comprises a valve, or variable constriction, disposed therein for controlling the first or second flow rate, respectively.

A problem with this §102 rejection is that it relies on portions of the present application that discuss several different embodiments. However, as reflected by MPEP §2131, a proper §102 rejection must be based on one and only one prior art embodiment, and cannot be a combination of features extracted from multiple different embodiments. As best understood, the Examiner apparently intended to rely only on the embodiment shown in Figure 1 of the present application, and the following discussion is therefore directed to the embodiment of Figure 1.

A further and separate consideration is that Claims 1 and 57 each call for a pump associated with the third conduit (for the diluted sample), and also call for a valve or variable constriction in one of the first and second conduits (respectively for the sample and diluent), in order to respectively control the first or second flow rate. Turning to the AAPA, Figure 1 of the present application shows a pump 14 in a first inlet conduit to a mixer 16, a pump 20 in another

inlet conduit to the mixer, and a pump 22 in an outlet conduit from the mixer. However, Figure 1 does not disclose any valve or variable constriction in any of the three conduits. Claims 1 and 57 are each different from Figure 1 of the AAPA, because they each recite a "valve" or "variable constriction" in a conduit.

As discussed above, in order to anticipate a claim under §102, a reference (1) must disclose each and every element recited in the claim, and (2) must also disclose these elements arranged in the manner recited in the claim. The system shown in Figure 1 of the AAPA does not meet this requirement. Accordingly, it is respectfully submitted that Figure 1 and paragraphs 10-19 of the present application do not anticipate either of Claims 1 and 57, and notice to that effect is respectfully requested.

Patentability of Independent Claim 57 - §103, Figure 2 and Paragraphs 10-19

Independent Claim 57 stands rejected under 35 U.S.C. §103 on the ground that it would be obvious in view of Figure 2 and paragraphs 10-19 of the present application, which for the purpose of this rejection the Examiner refers to as Applicants' Admitted Prior Art (AAPA). This ground of rejection is respectfully traversed. In this regard, the PTO specifies in MPEP §2142 that:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

Applicants respectfully submit that Figure 2 and paragraphs 10-19 of the present application fail to establish a *prima facie* case of obviousness under §103 with respect to Claim 57, for the following reasons. MPEP §706.02(j) explains that, in order to establish a *prima facie* case of

obviousness under 35 U.S.C. §103, an examiner must satisfy four specific minimum requirements. In particular, MPEP §706.02(j) specifies that:

35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

- (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
- (B) the difference or differences in the claim over the applied reference(s),
- (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
- (D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

As discussed below, the Office Action fails to satisfy most of these minimum PTO requirements for establishing a prima facie case of obviousness. Independent Claim 57 recites:

. . . a mixer . . .; a first conduit for supplying a sample to the mixer at a first flow rate; a second conduit for supplying a diluent to the mixer at a second flow rate; a third conduit for receiving a diluted sample from the mixer; and a pump for pumping the diluted sample from the mixer through the third conduit at a third flow rate . . . , wherein one of the first and second conduits comprises a

valve, or variable constriction, disposed therein for controlling the first or second flow rate, respectively.

With reference to the AAPA, Figure 2 of the present application shows (1) a mixer 34 with two inlet conduits 30 and 35 and an outlet conduit 33', (2) a pump 31 and a valve 32 in the inlet conduit 30, (3) no pump, valve or constriction in the inlet conduit 35, and (4) no pump, valve or constriction in the outlet conduit 33'. The disclosed pump 31 is a syringe pump, and the pump 31 and valve 32 work in tandem to control fluid flow through the conduit 30. For example, paragraph 12 of the present application explains that, with syringe pumps, fluid needs to be drawn up before it is pumped out, and so a valve is needed in order to ensure the correct flow of fluid through the system. Claim 57 is different from Figure 2 of the AAPA, because Claim 57 requires "a pump for pumping the diluted sample from the mixer through the third conduit at a third flow rate". The pump 31 in Figure 2 of the AAPA does not meet this limitation, and Figure 2 does not disclose any other pump. In explaining the §103 rejection, the Office Action notes that Figure 2 does not have a valve or constriction in the conduit 35, and asserts that it would be obvious to provide one. However, the Office Action (1) fails to discuss the fact that Figure 2 of the AAPA lacks a pump for the outlet conduit 33', (2) fails to propose modification of Figure 2 to add such a pump, and (3) fails to propose any reason why a person of only ordinary skill in the art would be motivated to modify Figure 2 to add such a pump. In other words, the Office Action fails to satisfy three of the PTO's four minimum requirements for properly establishing a prima facie case of obviousness under §103, as discussed above and in MPEP §706.02(j).

It is therefore respectfully submitted that Claim 57 is not rendered obvious under §103 by the AAPA (Figure 2 and paragraphs 10-19 of the present application). Accordingly, Claim 57 is believed to be allowable over the AAPA, and notice to that effect is respectfully requested.

Dependent Claims

Claims 2-7, 9-10, 54 and 59 each depend from Claim 1, and are also believed to be patentable, for example for the same reasons discussed above in association with Claim 1.

Conclusion

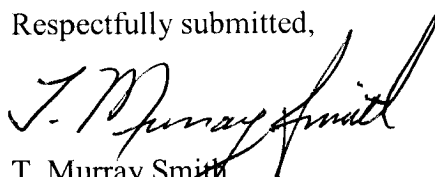
Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

Although Applicants believe that no additional fee is due, the Commissioner is hereby authorized to charge any fees required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone, LLP.

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Enclosures: Three (3) new drawing sheets bearing new Figures 4-6

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